



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

VIA CERTIFIED MAIL 7002 0510 0004 2630 3234

July 6, 2004

Mr. James Townsend
U.S. Army Corps of Engineers
Louisville District
P.O. Box 59
Louisville, Kentucky 40201-0059

Dear Mr. Townsend:

Re: Section 401 Water Quality Certification
Project: 2005 Reissuance of Nationwide Permits
and Renewal of Regional General Permit for
Indiana

INTRODUCTION

Office of Water Quality staff has reviewed your application dated January 29, 2004, requesting Section 401 Water Quality Certification. You propose to reissue all existing nationwide permits (NWP) and the Regional General Permit for the State of Indiana. Nationwide permits are intended to authorize categories of activities that are similar in nature and cause minimal individual and cumulative impacts to the aquatic environment.

As stated in your application, the Louisville and Detroit Districts of the Corps developed the existing Indiana Regional General Permit No. 1 (RGP 1) to replace several NWPs. As a consequence of this action, the following NWPs have been, and will continue to be, suspended and will not be in effect for the state of Indiana. You propose to continue the suspension of the following:

NWP 7 Outfall Structures
NWP 11 Temporary Recreational Structures
NWP 13 Bank Stabilization
NWP 14 Linear Transportation Projects
NWP 15 U.S. Coast Guard Approved Bridges
NWP 18 Minor Discharges
NWP 19 Minor Dredging
NWP 25 Structural Discharges
NWP 29 Single-family Housing
NWP 36 Boat Ramps
NWP 39 Residential, Comm. and Institutional Dev.
NWP 40 Agricultural Activities

NWP 41 Reshaping Existing Drainage Ditches
 NWP 42 Recreational Facilities
 NWP 43 Stormwater Management Facilities
 NWP 44 Mining Activities

Since the aforementioned NWPs are suspended in Indiana, no water quality certification decision is required.

DECISION

For the NWPs that will be in effect for the state of Indiana and RGP 1, it is the judgment of this office that the proposed NWPs and RGP 1 will comply with the applicable provisions of state law (including 327 IAC 2) and Sections 301, 302, 303, 306, and 307 of the Clean Water Act if the recipient of the certification complies with the conditions set forth below. Therefore, subject to the following conditions, the Indiana Department of Environmental Management (IDEM) hereby grants Section 401 Water Quality Certification for the NWPs described in your application received January 29, 2004 and the RGP 1 issued on October 22, 1999 and modified on July 14, 2000. Any changes in the language or scope of any NWP not detailed in the application described above, in the RGP 1, or as modified by the conditions below, are not authorized by this certification.

Section 401 Water Quality Certification Decisions for NWPs in effect for the State of Indiana - 2004

NWP	Activity	Decision	Conditions
1	Aids to Navigation	Approve	None
2	Structures in Artificial Channels	Approve	None
3	Maintenance	Approve	Yes
4	Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities	Approve	None
5	Scientific Measurement Devices	Approve	None
6	Survey Activities	Approve	None
8	Oil and Gas Structures	Approve	None
9	Structures in Fleeting and Anchorage Areas	Approve	None
10	Mooring Buoys	Approve	None
12	Utility Line Activities	Approve	Yes
16	Return Water from Upland Contained Disposal Areas	Approve	Yes
17	Hydropower Projects	Deny	N/A
20	Oil Spill Cleanup	Deny	N/A
21	Surface Coal Mining Activities	Approve	None
22	Removal of Vessels	Approve	None
23	Approved Categorical Exclusions	Deny	N/A
24	State Administered Section 404 Program	Approve	None
26	Reserved	N/A	N/A
27	Stream and Wetland Restoration Activities	Approve	Yes
28	Modifications of Existing Marinas	Approve	None
30	Moist Soil Management for Wildlife	Approve	None
31	Maintenance of Existing Flood Control Facilities	Deny	N/A
32	Completed Enforcement Actions	Deny	N/A
33	Temporary Construction, Access, and Dewatering	Approve	None
34	Cranberry Production Activities	Deny	N/A
35	Maintenance Dredging of Existing Basins	Deny	N/A
37	Emergency Watershed Protection and Rehabilitation	Approve	Yes
38	Cleanup of Hazardous and Toxic Waste	Deny	N/A

GENERAL CONDITIONS:

The following conditions shall apply to any person whose project qualifies under the RGP or any NWP approved under this certification:

1. The person shall deposit any dredged material in a contained upland disposal area to prevent sediment run-off to any waterbody. The person shall dispose of all dredged and excavated material according to the requirements of 329 IAC 10, governing Solid Waste Land Disposal Facilities. The person's project information may be forwarded to the IDEM Office of Land Quality, Industrial Waste Section for review. Sampling may be required to determine if the dredged sediment is contaminated. Failure to properly dispose of contaminated sediment may result in enforcement action.
2. The person shall install erosion control methods prior to any soil disturbance to prevent soil from leaving the construction site. Appropriate erosion control methods include, but are not limited to, straw bale barriers, silt fencing, erosion control blankets, phased construction sequencing, and earthen berms. The person shall monitor and maintain erosion control structures and devices regularly, especially after rain events, until all soils disturbed by construction activities have been permanently stabilized.
3. The person shall clearly mark the construction limits shown in the attached plans at the project site during construction.
4. The permittee shall allow the commissioner or an authorized representative of the commissioner (including an authorized contractor), upon the presentation of credentials:
 - (1) to enter upon the permittee's property;
 - (2) to have access to and copy at reasonable times any records that must be kept under the conditions of this certification;
 - (3) to inspect, at reasonable times, any monitoring or operational equipment or method; collection, treatment, pollution management or discharge facility or device; practices required by this certification; and any wetland mitigation site; and
 - (4) sample or monitor any discharge of pollutants or any mitigation site.
5. This granting of Section 401 Water Quality Certification does not relieve the recipient of the certification from the responsibility of obtaining any other permits or authorizations that may be required for this project or related activities from IDEM or any other agency or person.
6. This certification does not:
 - (1) authorize impacts or activities outside the scope of this certification;
 - (2) authorize any injury to persons or private property or invasion of other private rights, or any infringement of federal, state or local laws or regulations;
 - (3) convey any property rights of any sort, or any exclusive privileges;
 - (4) preempt any duty to obtain federal, state or local permits or authorizations required by law for the execution of the project or related activities; or
 - (5) authorize changes in the plan design detailed in the application.

NWP/RGP SPECIFIC CONDITIONS:

The following conditions apply to Regional General Permit No. 1 and Nationwide Permits 3, 12, 27, and 37:

1. An activity that qualifies for a Corps of Engineers Regional General Permit or Nationwide Permits 3, 12 (Parts ii, iii, and iv ONLY), 27, or 37 is authorized pursuant to this Section 401 Water Quality

Certification (WQC) if:

- (A) The activity will impact one-tenth (0.1) of an acre or less of Waters of the United States¹, including wetlands², special aquatic sites³, creeks, ditches, streams, rivers, deep water areas⁴, or open water areas⁵; and
- (B) The activity will impact 300 linear feet or less of stream channel or shoreline, excluding the activities described in Condition 3 of this WQC. Fill must conform to the existing contour of the shoreline or bank and shall not exceed one cubic yard per linear foot. Fill shall not project into any stream or open body of water. For any project involving bridge construction or maintenance, the limits of bank impact are measured from the centerline of the bridge to a maximum projection of 150 linear feet upstream and downstream; and
- (C) The activity is part of a single and complete project.

All activities that exceed the above impact thresholds require an individual Section 401 WQC from IDEM and are not authorized under this WQC.

- 2. For Nationwide Permit 12 (Part I only) the following conditions apply:
 - a. Notification to IDEM is NOT required for any project where the only regulated activity is a the construction of a stream crossing where the crossing is constructed using direction boring or other related technique that DOES NOT involve the placement of fill materials within a regulated waterbody. Other forms of crossings, such as trenching, pipeline armoring, and the like, require notification to IDEM.
 - b. Notification to IDEM is required for any pipeline project that involves crossings of wetlands AND will involve the restoration of the wetland area to pre-construction grade and contours and the area will be restored with appropriate seeding and/or planting. A copy of the restoration plan should be submitted with the Notification Form.
 - c. IDEM may require an individual WQC if permanent conversion of wetlands will occur as a result of the project. Permanent conversion would include significant alteration of wetland hydrology or alteration of the dominant plant community, for example, removing a forested wetland and replacing it with an emergent wetland.
- 3. No stream channel relocation, stream piping, or stream channelization activity is authorized under this WQC. Channelization includes any activity that alters a stream channel either by dredging, excavating, or bank armoring in order to straighten, deepen, or otherwise alter the flow path and velocity of water traveling within the channel. Stream piping for the purpose of creating a crossing is permitted, but may not exceed 150 feet in order to qualify under this condition.
- 4. Any activity involving fill that is associated with additional impacts to Waters of the United States, such as dredging, excavation, damming, or creation of in-channel ponds, is not authorized under this WQC.
- 5. No activity is authorized under this WQC if it is to be conducted on or in any of the state's waters that have been designated by the Water Pollution Control Board as: salmonid waters (cold water streams), Outstanding State and/or National Resource Waters, and Exceptional Use waters. (*see Attachment #1*). Additionally, no activity is authorized under this WQC if it is to be conducted on or in: (a) any wetland adjacent to, or (b) any tributary within a two river mile reach upstream from the outlet to, such designated waters.
- 6. No activity is authorized under this WQC where state endangered, threatened, or rare species are documented on a permanent or seasonal basis within a 1/2-mile radius of the proposed project site by the Indiana Natural Heritage Data Center.

7. No activity is authorized under this Section 401 Water Quality Certification if it is to occur in any critical wetland or critical special aquatic Site listed on *Attachment #2*.
8. The IDEM Notification Form shall be completed, signed, and provided to IDEM by the permittee at least 45 working days prior to the proposed waterbody impact for all activities in which an individual Section 401 WQC is not required. NOTE: *A Notification Form is not required when the proposed activity meets all of the terms of the Special Conditions outlined in this letter.*
9. All dredged and excavated material must be disposed of according to the requirements of 329 IAC 10, governing Solid Waste Land Disposal Facilities. All discharges of return water from disposal facilities into waters of the state are subject to NPDES and other water quality requirements set forth in 327 IAC 5 and 327 IAC 2. All permittees must comply with all other applicable provisions of state law, including the provisions of 327 IAC 15-5 and 327 IAC 15-6.
10. IDEM will evaluate the cumulative effects of this General Permit annually. If at any time IDEM determines that the General Permit does not comply with Indiana Water Quality Standards on a cumulative basis, IDEM will revoke or modify the Section 401 Water Quality Certification.
11. In order to verify that a given project will qualify under the terms and conditions of the this certification, IDEM may require additional information from the applicant. If the applicant fails to provide any information requested by IDEM, then the project is not authorized.
12. The department, for any project that qualifies under the terms and conditions of this certification, may chose to require an individual water quality certification if it determines that the project would have more than minimal impacts to water quality, either viewed individually or collectively with other projects that may affect the same waterbody affected by the proposed project.

NWP 16 SPECIFIC CONDITION

- 1 The discharge of return water from upland contained disposal areas is regulated by IDEM's National Pollution and Discharge Elimination System Permitting Program. Persons qualifying for this NWP are advised to contact IDEM regarding the possible need for additional permits or authorizations.

Failure to comply with the terms and conditions of this Section 401 Water Quality Certification may result in enforcement action against the recipient of the certification. If an enforcement action is pursued, the recipient of the certification could be assessed up to \$25,000 per day in civil penalties. The recipient of the certification may also be subject to criminal liability if it is determined that the Section 401 Water Quality Certification was violated willfully or negligently.

EFFECTIVE DATE & APPEAL RIGHTS

This certification is effective 18 days from the mailing of this notice unless a petition for review and a petition for stay of effectiveness are filed within this 18-day period. If a petition for review and a petition for stay of effectiveness are filed within this period, any part of the certification within the scope of the petition for stay is stayed for 15 days, unless or until an Environmental Law Judge further stays the certification in whole or in part.

This decision may be appealed in accordance with IC 4-21.5, the Administrative Orders and Procedures Act. The steps that must be followed to qualify for review are:

1. You must petition for review in writing that states facts demonstrating that you are either the person to whom this decision is directed, a person who is aggrieved or adversely affected by the decision, or a person entitled to review under any law.

2. You must file the petition for review with the Office of Environmental Adjudication (OEA) at the following address:

Office of Environmental Adjudication
ISTA Building
150 West Market Street
Suite 618
Indianapolis, IN 46204

3. You must file the petition within eighteen (18) days of the mailing date of this decision. If the eighteenth day falls on a Saturday, Sunday, legal holiday, or other day that the OEA offices are closed during regular business hours, you may file the petition the next day that the OEA offices are open during regular business hours. The petition is deemed filed on the earliest of the following dates: the date it is personally delivered to OEA; the date that the envelope containing the petition is postmarked if it is mailed by United States mail; or, the date it is shown to have been deposited with a private carrier on the private carrier's receipt, if sent by private carrier.

Providing the IDEM ID # on the cover page of this decision, as well as the name of the applicant, and date of this decision will expedite review of the petition.

Note that if a petition for review is granted pursuant to IC 4-21.5-3-7, the petitioner will, and any other person may, obtain notice of any prehearing conferences, preliminary hearings, hearings, stays, and any orders disposing of the proceedings by requesting copies of such notices from OEA.

If you have procedural questions regarding filing a petition for review you may contact OEA at 317-232-8591.

If you have any questions about this certification, please contact Mr. Andrew Pelloso, Project Manager, of my staff at 317-233-2481, or you may contact the Office of Water Quality through the IDEM Environmental Helpline (1-800-451-6027).

Sincerely,

ORIGINAL SIGNED

Martha Clark Mettler, Chief
Watershed Branch
Office of Water Quality

cc: Mr. Gary Mannesto, USACOE-Detroit
Mr. Scott Pruitt, USFWS
Ms. Cathy Garra, USEPA-Region V
Mr. John Goss, IDNR
Mr. Jon Eggen, IDNR-Fish and Wildlife
Ms. Jane Hardisty, NRCS-Indianapolis

¹Defined at 33 CFR Part 328

²Defined at 40 CFR Part 230.3 (t)

³Defined at 40 CFR Part 230.3 (q-1)

⁴“Deep water” means areas that are permanently inundated at mean annual water depths greater than six and six-tenths (6.6) feet. These are areas that are not wetlands but may be adjacent to or surrounded by wetlands.

⁵“Open water” means areas of a wetland that are permanently inundated at mean annual water depths less than or equal to six and six-tenths (6.6) feet. These areas may contain little or no vegetation.

Attachment 1 - Indiana Waters Designated for Special Protection

Designated Salmonid Waters:

Trail Creek & tributaries upstream of US Highway 35.
East Branch of the Little Calumet River and its tributaries downstream to Lake Michigan via Burns Ditch.
Kintzele Ditch (Black Ditch) from Beverly Drive downstream to Lake Michigan.
Salt Creek above its confluence with the Little Calumet River.
Galena River and its tributaries in Laporte County.
The St. Joseph River and its tributaries in St. Joseph County from the Twin Branch Dam in Mishawaka downstream to the Indiana/Michigan state line.

Waterbodies which have been designated all or partially as Outstanding State Resource Waters:

The Blue River in Washington, Crawford, and Harrison counties.
Cedar Creek in Allen and DeKalb counties.
The North Fork of Wildcat Creek in Carroll and Tippecanoe counties.
The South Fork of Wildcat Creek in Tippecanoe County.
The Indiana portion of Lake Michigan.
All waters incorporated in the Indiana Dunes National Lakeshore.

Streams which have designated all or partially as Exceptional Use Streams:

Big Pine Creek in Warren County.
Mud Pine Creek in Warren County.
Fall Creek in Warren County.
Indian Creek in Montgomery County.
Clifty Creek in Montgomery County.
Bear Creek in Fountain County.
Rattlesnake Creek in Fountain County.
The small tributary to Bear Creek in Fountain County within the Portland Arch Nature Preserve which enters Bear Creek at the sharpest bend and has formed the small natural bridge called Portland Arch.
Blue River from the confluence of the West Middle Forks of the Blue River in Washington County.
The South Fork of the Blue River in Washington County.
Lost River and all surface and underground tributaries upstream from the Orangeville Rise (T2N, R1W, Section 6) and the Rise of Lost River (T2N, R1W, Section 7) and the mainstream of the Lost River from Orangeville Rise downstream to its confluence with the East Fork of the White River.

Attachment 2 - Critical Wetlands and Critical Special Aquatic Sites

1. Acid Bogs
2. Circumneutral Bogs
3. Cypress Swamps
4. Dune and Swale
5. Fens
6. Mark Beach
7. Muck Flat
8. Sand Flat
9. Sinkhole ponds
10. Sinkhole swamps

Definitions:

1. “Acid bog” means a wetland that includes the following characteristics:
 - (A) Located within glacial, moraine, ice-block depressions, or kettles, and more rarely located in unglaciated areas.
 - (B) The water regime is nonflowing or very slowly flowing.
 - (C) Substrates are seasonally or permanently saturated.
 - (D) Water chemistry is acidic.
 - (E) Nutrient availability is low.
 - (F) Composed of sphagnum peat or other low nutrient organic substrates.
 - (G) Indicator plant species include one (1) or more of the following:
 - (i) Arrow grass (*Scheuchzeria palustris americana*).
 - (ii) Bog bladderwort (*Utricularia geminiscapa*).
 - (iii) Bog rosemary (*Andromeda glaucophylla*).
 - (iv) Bog spike rush (*Eleocharis robbinsii*).
 - (v) Cordroot sedge (*Carex chordorrhiza*).
 - (vi) Dense cotton grass (*Eriophorum spissum*).
 - (vii) Dragon’s mouth (*Arethusa bulbosa*).
 - (viii) Dwarf birch (*Betula pumila*).
 - (ix) Grass pink (*Calopogon tuberosus*).
 - (x) Gray bog sedge (*Carex canescens*).
 - (xi) Hair star sedge (*Carex atlantica capillacea*).
 - (xii) Hardhack (*Spiraea tomentosa rosea*).
 - (xiii) Highbush blueberry (*Vaccinium corymbosum*).
 - (xiv) Large cranberry (*Vaccinium macrocarpon*).
 - (xv) Large-fruited star sedge (*Carex echinata*).
 - (xvi) Leatherleaf (*Chamaedaphne calyculata angustifolia*).
 - (xvii) Marsh St. John’s wort (*Hypericum virginicum*).
 - (xviii) Moccasin flower (*Cypripedium acaule*).
 - (xix) Mountain holly (*Nemopanthus mucronata*).
 - (xx) Muck sedge (*Carex limosa*).
 - (xxi) Narrow-leaved sundew (*Drosera intermedia*).
 - (xxii) Orange fringed orchid (*Habenaria ciliaris*).
 - (xxiii) Pitcher plant (*Sarracenia purpurea*).
 - (xxiv) Poison sumac (*Rhus vernix*).
 - (xxv) Round-leaved sundew (*Drosera rotundifolia*).
 - (xxvi) Running bog sedge (*Carex oligosperma*).
 - (xxvii) Rusty cotton grass (*Eriophorum virginicum*).
 - (xxviii) Screwstem (*Bartonia virginica*).
 - (xxix) Silky willow (*Salix sericea*).
 - (xxx) Slender cotton grass (*Eriophorum gracile*).

- (xxxi) Small cranberry (*Vaccinium oxycoccus*).
- (xxxii) Smith's tufted bulrush (*Scirpus smithii*).
- (xxxiii) Smooth white violet (*Viola pallens*).
- (xxxiv) Snake-mouth orchid (*Pogonia ophioglossoides*).
- (xxxv) Tamarack (*Larix laricina*).
- (xxxvi) Three-seeded bog sedge (*Carex trisperma*).
- (xxxvii) Two-seeded sedge (*Carex disperma*).
- (xxxviii) Virginia chain fern (*Woodwardia virginica*).
- (xxxix) White beak rush (*Rhynchospora alba*).
- (xl) Yellow avens (*Geum aleppicum*).

2. "Circumneutral bog" means a wetland that includes the following characteristics:
 - (A) Located within glacial, moraine, ice-block depressions, or kettles, and more rarely located in unglaciated areas.
 - (B) Ground water inflow fluctuates with hydrostatic pressure.
 - (C) Water is nonflowing or very slowly flowing.
 - (D) Substrates are saturated.
 - (E) Water chemistry is circumneutral to slightly acidic.
 - (F) Deep rooted vegetation may be exposed to the alkaline or circumneutral minerotrophic ground water while shallow roots inhabit more acidic layers of the peat substrate.
 - (G) Nutrient availability is low.
 - (H) Composed of sphagnum peat or other low nutrient organic substrates.
 - (I) Indicator plant species include one (1) or more of the following:
 - (i) Bog panicked sedge (*Carex diandra*).
 - (ii) Bog willow (*Salix pedicellaris hypoglauca*).
 - (iii) Buckbean (*Menyanthes trifoliata minor*).
 - (iv) Flat-leaved bladderwort (*Utricularia intermedia*).
 - (v) Greenbog sedge (*Carex brunnescens*).
 - (vi) Highbush blueberry (*Vaccinium corymbosum*).
 - (vii) Marsh cinquefoil (*Potentilla palustris*).
 - (viii) Narrow-leaved wooly sedge (*Carex lasiocarpa americana*).
 - (ix) Northern gooseberry (*Ribes hirtellum*).
 - (x) Northern panic grass (*Panicum boreale*).
 - (xi) Pitcher plant (*Sarracenia purpurea*).
 - (xii) Poison sumac (*Rhus vernix*).
 - (xiii) Slender sedge (*Carex leptalea*).
 - (xiv) Small bladderwort (*Utricularia minor*).
 - (xv) Tamarack (*Larix laricina*).
 - (xvi) White beak rush (*Rhynchospora alba*).

3. "Cypress swamp" means a forested wetland that includes the following characteristics:
 - (A) Located within a depression or slough associated with one (1) or more of the following:
 - (i) Wabash River.
 - (ii) Ohio River.
 - (iii) The tributaries of item (i) or (ii).
 - (B) Seasonally to permanently saturated or ponded.
 - (C) Water chemistry is circumneutral.
 - (D) Nutrient availability is not a defining characteristic of this wetland type.
 - (E) Composed of very poorly drained soils, usually not peat.
 - (F) Indicator plant species include Bald cypress (*Taxodium distichum*) and one (1) or more of the following:

- (i) American storax (*Styrax americana*).
- (ii) Bloodleaf (*Iresine rhizomatosa*).
- (iii) Catbird grape (*Vitis palmata*).
- (iv) Climbing hempweed (*Mikania scandens*).
- (v) Featherfoil (*Hottonia inflata*).
- (vi) Overcup oak (*Quercus lyrata*).
- (vii) Swamp cottonwood (*Populus heterophylla*).
- (viii) Water locust (*Gleditsia aquatica*).
- (ix) White milkweed (*Asclepias perennis*).

4. “Dune and swale” means a complex of sand dunes and wetlands that includes the following characteristics:

- (A) Sand hills, divided by low lying areas referred to as swales, that:
 - (i) are located within the Little Calumet-Galien United States Geological Survey (USGS) eight (8) digit watershed (Hydrologic Unit Code (HUC) 04040001 or Chicago United States Geological Survey (USGS) eight (8) digit watershed (Hydrologic Unit Code (HUC) 07120003; and
 - (ii) may contain one (1) or more of the following:
 - (AA) Wet prairies.
 - (BB) Pannes.
 - (CC) Coastal remnant communities.
- (B) Hydrology is ground water driven.
- (C) Water chemistry is alkaline and carbonate rich.
- (D) Nutrient availability is not a defining characteristic of this wetland type.
- (E) Substrate is wet calcareous sand.
- (F) Indicator plant species include one (1) or more of the following:
 - (i) Beach pea (*Lathyrus japonicus glaber*).
 - (ii) Common bog arrow grass (*Triglochin maritima*).
 - (iii) Dune goldenrod (*Solidago racemosa gillmanii*).
 - (iv) Dune thistle (*Cirsium pitcheri*).
 - (v) Dune willow (*Salix syrticola*).
 - (vi) Early fen sedge (*Carex crawei*).
 - (vii) False golden sedge (*Carex garberi*).
 - (viii) False heather (*Hudsonia tomentosa*).
 - (ix) Fringed gentian (*Gentiana crinita*).
 - (x) Golden sedge (*Carex aurea*).
 - (xi) Green yellow sedge (*Carex viridula*).
 - (xii) Hair bladderwort (*Utricularia subulata*).
 - (xiii) Horned bladderwort (*Utricularia cornuta*).
 - (xiv) Humped bladderwort (*Utricularia gibba*).
 - (xv) Indian paintbrush (*Castilleja coccinea*).
 - (xvi) Jack pine (*Pinus banksiana*).
 - (xvii) Jointweed (*Polygonella articulata*).
 - (xviii) Kalm’s St. John’s wort (*Hypericum kalmianum*).
 - (xix) Large yellow sedge (*Carex flava*).
 - (xx) Northern panic grass (*Panicum boreale*).
 - (xxi) Pale false foxglove (*Agalinis skinneriana*).
 - (xxii) Prairie gray sedge (*Carex conoidea*).
 - (xxiii) Rose gentian (*Sabatia angularis*).
 - (xxiv) Sand club moss (*Selaginella rupestris*).
 - (xxv) Sea rocket (*Cakile edentula*).
 - (xxvi) Seaside spurge (*Euphorbia polygonifolia*).
 - (xxvii) Small yellow lady’s slipper (*Cypripedium calceolus parviflorum*).
 - (xxviii) Tall nut rush (*Scleria triglomerata*).

- (xxix) Twig rush (*Cladium mariscoides*).
- (xxx) Wrinkle-sheathed spike (*Eleocharis olivacea*).

5. “Fen” means a wetland that includes the following characteristics:
 - (A) Formed from the discharge of water that travels through carbonate rich formations.
 - (B) Located:
 - (i) in general, near glacial formations such as:
 - (AA) kames;
 - (BB) eskers; or
 - (CC) moraines; or
 - (ii) also near river bluffs or dunes and in flats associated with the glacial formations listed in item (i).
 - (C) Hydrology is minerotrophic ground water.
 - (D) The water regime is very slowly flowing water that fluctuates seasonally.
 - (E) Water chemistry is alkaline and rich in carbonates.
 - (F) Nutrient availability is low but with high mineral content.
 - (G) Substrate is marl, peat, or muck.
 - (H) Indicator plant species include one (1) or more of the following:
 - (i) Alder buckthorn (*Rhamnus alnifolia*).
 - (ii) Black ash (*Fraxinus nigra*).
 - (iii) Bog goldenrod (*Solidago uliginosa*).
 - (iv) Bog lobelia (*Lobelia kalmii*).
 - (v) Bog valerian (*Valeriana uliginosa*).
 - (vi) Common valerian (*Valeriana ciliata*).
 - (vii) Dwarf birch (*Betula pumila*).
 - (viii) Eastern white cedar (*Thuja occidentalis*).
 - (ix) False asphodel (*Tofieldia glutinosa*).
 - (x) Fen panicled sedge (*Carex prairea*).
 - (xi) Fen star sedge (*Carex sterilis*).
 - (xii) Grass of parnassus (*Parnassia glauca*).
 - (xiii) Hair beak rush (*Rhynchospora capillacea*).
 - (xiv) Hemlock parsley (*Conioselinum chinense*).
 - (xv) Lance-leaved buckthorn (*Rhamnus lanceolata*).
 - (xvi) Large yellow sedge (*Carex flava*).
 - (xvii) Low calamint (*Satureja arkansana*).
 - (xviii) Low nut rush (*Scleria verticillata*).
 - (xix) Marsh bellflower (*Campanula uliginosa*).
 - (xx) Marsh club moss (*Selaginella apoda*).
 - (xxi) Marsh wild timothy (*Muhlenbergia glomerata*).
 - (xxii) Mead’s stiff sedge (*Carex meadii*).
 - (xxiii) Narrow-leaved cotton grass (*Eriophorum angustifolium*).
 - (xxiv) Narrow-leaved loosestrife (*Lysimachia quadriflora*).
 - (xxv) Northern bog orchid (*Habenaria hyperborea huronensis*).
 - (xxvi) Northern gooseberry (*Ribes hirtellum*).
 - (xxvii) Ohio goldenrod (*Solidago ohioensis*).
 - (xxviii) Prairie star sedge (*Carex interior*).
 - (xxix) Rough bedstraw (*Galium asprellum*).
 - (xxx) Rush aster (*Aster borealis*).
 - (xxxi) Sage willow (*Salix candida*).
 - (xxxii) Shrubby cinquefoil (*Potentilla fruticosa*).
 - (xxxiii) Slender bog arrow grass (*Triglochin palustris*).
 - (xxxiv) Small bladderwort (*Utricularia minor*).
 - (xxxv) Small fringed gentian (*Gentiana procera*).
 - (xxxvi) Snake-mouth orchid (*Pogonia ophioglossoides*).

- (xxxvii) Swamp goldenrod (*Solidago patula*).
- (xxxviii) Swamp thistle (*Cirsium muticum*).
- (xxxix) Sweet william phlox (*Phlox maculata*).
- (xl) Twig rush (*Cladium mariscoides*).
- (xli) White beak rush (*Rhynchospora alba*).
- (xlii) White lady's slipper (*Cypripedium candidum*).
- (xliii) Wicket spike rush (*Eleocharis rostellata*).

6. "Marl beach" means a fen-like wetland that includes the following characteristics:
 - (A) Located along a lake shoreline mostly in the northeastern portion of Indiana.
 - (B) Shallowly inundated with water in the spring but dry during the summer.
 - (C) Water chemistry is alkaline.
 - (D) Nutrient availability is not a defining characteristic of this wetland type.
 - (E) Substrate is marl.
 - (F) Indicator plant species include one (1) or more of the following:
 - (i) Fen star sedge (*Carex sterilis*).
 - (ii) Flat-leaved bladderwort (*Utricularia intermedia*).
 - (iii) Golden-seeded spike rush (*Eleocharis elliptica*).
 - (iv) Hair beak-rush (*Rhynchospora capillacea*).
 - (v) Short-headed rush (*Juncus brachycephalus*).
 - (vi) Slender bog arrow grass (*Triglochin palustris*).
 - (vii) Twig rush (*Cladium mariscoides*).
 - (viii) Wicket spike rush (*Eleocharis rostellata*).
 - (ix) Wiry panic grass (*Panicum flexile*).

7. "Muck flat" means a shoreline or lakeshore wetland that includes the following characteristics:
 - (A) Located within the glaciated portions of the northern half of Indiana.
 - (B) Has a basin water level that fluctuates during a season or from year to year in response to the amount of precipitation.
 - (C) Is usually inundated during high water periods and exposed periodically.
 - (D) Water chemistry is not a defining characteristic of this wetland type.
 - (E) Nutrient availability is not a defining characteristic of this wetland type.
 - (F) Substrate is peat.
 - (G) Indicator plant species include one (1) or more of the following:
 - (i) Autumn sedge (*Fimbristylis autumnalis*).
 - (ii) Black-fruited spike (*Eleocharis melanocarpa*).
 - (iii) Bog spike rush (*Eleocharis robbinsii*).
 - (iv) Brown-fruited rush (*Juncus pelocarpus*).
 - (v) Carey's heartsease (*Polygonum careyi*).
 - (vi) Chestnut sedge (*Fimbristylis puberula*).
 - (vii) Cross milkwort (*Polygala cruciata aquilonia*).
 - (viii) Floating bladderwort (*Utricularia inflata minor*).
 - (ix) Grass beak rush (*Rhynchospora globularis recognita*).
 - (x) Horned beak rush (*Rhynchospora macrostachya*).
 - (xi) Hyssop hedge nettle (*Stachys hyssopifolia*).
 - (xii) Long-beaked bald rush (*Psilocarya scirpoides*).
 - (xiii) Meadow beauty (*Rhexia virginica*).
 - (xiv) Netted nut rush (*Scleria reticularis*).
 - (xv) Pipewort (*Eriocaulon septangulare*).
 - (xvi) Pursh's tufted bulrush (*Scirpus purshianus*).
 - (xvii) Round-headed rush (*Juncus scirpoides*).
 - (xviii) Sand panic grass (*Panicum spretum*).
 - (xix) Sessile water horehound (*Lycopus amplexans*).
 - (xx) Slender-leaved goldenrod (*Solidago tenuifolia*).

- (xxi) Smith's tufted bulrush (*Scirpus smithii*).
- (xxii) Southern yellow flax (*Linum intercursum*).
- (xxiii) Stiff yellow flax (*Linum striatum*).
- (xxiv) Tall yellow-eyed grass (*Xyris difformis*).
- (xxv) Umbrella sedge (*Fuirena pumila*).
- (xxvi) Warty panic grass (*Panicum verrucosum*).
- (xxvii) Water pennywort (*Hydrocotyle umbellata*).
- (xxviii) Wrinkle-sheathed spike (*Eleocharis olivacea*).
- (xxix) Yellow-eyed grass (*Xyris torta*).

8. "Sand flat" means a shoreline or lakeshore wetland located in the northern portion of Indiana that has the same characteristics as a muck flat with the exception that the substrate is composed of sand.

9. "Sinkhole pond" means a wetland that includes the following characteristics:
 - (A) Located within depressions formed by chemical and physical weathering of the underlying limestone.
 - (B) Found in the karst region of southern Indiana.
 - (C) Permanently inundated or saturated with water and dry only in drought years.
 - (D) Water chemistry is alkaline to circumneutral.
 - (E) Nutrient availability is not a defining characteristic of this wetland type.
 - (F) Substrate is not a defining characteristic of this wetland type.
 - (G) Indicator plant species include one (1) or more of the following:
 - (i) Branched bur reed (*Sparganium angrocladum*).
 - (ii) Bristly sedge (*Carex comosa*).
 - (iii) Broad-leafed panicled sedge (*Carex decomposita*).
 - (iv) Humped bladderwort (*Utricularia gibba*).
 - (v) Sharp scaled manna grass (*Glyceria acutiflora*).
 - (vi) Swamp loosestrife (*Decodon verticillatus*).
 - (vii) Three-way sedge (*Dulichlum arundinaceum*).
 - (viii) Water-hissop (*Bacopa rotundifolia*).

10. "Sinkhole swamp" means a wetland that has the following characteristics:
 - (A) Located within depressions formed by chemical and physical weathering of the underlying limestone.
 - (B) Found in the karst region of southern Indiana.
 - (C) Permanently inundated or saturated with water and dry only in drought years.
 - (D) Water chemistry is alkaline to circumneutral.
 - (E) Nutrient availability is not a defining characteristic of this wetland type.
 - (F) Substrate is not a defining characteristic of this wetland type.
 - (G) Indicator plant species include one (1) or more of the following:
 - (i) Broad-leafed panicled sedge (*Carex decomposita*).
 - (ii) Greater hop sedge (*Carex gigantea*).
 - (iii) Horned beak rush (*Rhynchospora corniculata*).
 - (iv) Marsh elder (*Itea virginica*).
 - (v) Netted chain fern (*Woodwardia areolata*).
 - (vi) Small spearwort (*Ranunculus pusillus*).
 - (vii) Swamp cottonwood (*Populus heterophylla*).
 - (viii) Walter's St. John's wort (*Triadenum walteri*).